U P D A T E

1982

ENERGY ACTIVITIES

PROVINCE OF PRINCE EDWARD ISLAND

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INTRODUCTION

THE UPDATE WHICH FOLLOWS DESCRIBES CURRENT PROGRAMS AND PROJECTS OF THE ENERGY AND MINERALS BRANCH DEPARTMENT OF ENERGY AND FORESTRY AND OF THE P.E.I. ENERGY CORPORATION.

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The Energy and Minerals Branch of the Department of Energy and Forestry is responsible for developing energy policy, for delivering energy conservation and public awareness programs and for administering mineral lands and oil and gas lands within the province.

The P.E.I. Energy Corporation, a Crown Corporation of the Province, has responsibility for implementing energy projects which emphasize the utilization of locally available energy sources.

I. ENERGY AND MINERALS BRANCH, DEPARTMENT OF ENERGY AND FORESTRY

1. EnerSave for Industry and Commerce

(National Energy Audit Program)

The objective of this program is to help industrial, commercial and institutional organizations reduce energy demand. The program has three elements:

1. Energy Audits
2. Consultant advice and grants
3. Energy Conservation workshops and seminars.

Energy Audits

The Enersave energy audit is a free comprehensive study of an organization's energy use patterns. Two 2-person audit teams staff two computer-equipped "energy buses". These audit teams conduct the studies, determine areas of potential energy saving, and recommend specific energy conservation measures. Businesses of all kinds, industrial plants, institutions, government buildings, farms, churches and commercial apartment buildings are eligible for these energy audits. Private residences are not. To date $14.7 million in energy bills have been audited with annual potential savings of $3.4 million (22.5%) identified --- a total of 730 audits.

Consultant Advice and Grants

Where additional engineering analysis of private sector facilities is required, help is available through a two-tiered consultant program. For small jobs (under $3,000 annual potential savings)

Consultant Advice and Grants (continued)

the consultant normally works for and is paid directly by the Program. For large jobs (or any sized job when client prefers) the consultant is hired by and paid by the client who is then reimbursed by the program for up to 90% of the consultant's fee. Consultant grants are not available for provincially or municipally owned facilities.

Workshops and Seminars

The delivery of energy conservation workshops and seminars is mandated under the CANADA-P.E.I. AGREEMENT. Several seminars on energy conservation in municipalities are planned for 1983. Recent talks and courses under this element have addressed energy conservation on farms and in the tourist industry.

2. P.E.I. EnerPool

The EnerPool program demonstrates the potential for energy conservation in ride-sharing transportation; it began in 1978 with the lease of three 15-passenger vans and with increased interest in the program an additional similar van was leased in 1981. Each full van has the potential of reducing gasoline consumption by 47,000 litres per year.

Passenger rates are $50.00/month base cost, plus 2¢/km/day/passenger. This continues to represent a significant saving over 1-car/driver transportation. P.E.I. EnerPool is administered by the Energy Branch but operates on a user-pay system, with all lease and operating costs being paid out of passenger revenue.

2. P.E.I. EnerPool (continued)

The drivers travel free in exchange for their responsibilities as drivers, which includes properly maintaining the vehicles, establishing pick-up and drop-off schedules, collecting and depositing revenues and paying operating cost bills.

3. Infrared Thermography Program

At the request of homeowners, scans are conducted on the inside of their house. These scans produce a "heat picture" which depicts areas of heat loss, and are available at a charge of $25.00 per house. Approximately 150 scans were completed during the 1982 heating season.

4. Furnace Efficiency Testing

Seven furnace efficiency test kits are available free of charge for overnight or weekend loan; simple operational instructions are included with each kit. The kits are located at the Energy Branch offices in Charlottetown and at 5 Regional Services Centres across the Island.

In cases where a homeowner has difficulty in using the equipment or in interpreting the readings, Energy Branch staff will perform a follow-up test.

5. Auto Fuel and Emission Test Program (Triple E Check-Up)

As a result of the public interest in the pilot program in 1980, training programs were held during the summer and fall of 1981, and 40 licensed auto mechanics passed the course and are qualified to conduct testing. Three infrared analyzers have been

5. Auto Fuel and Emission Test Program (Triple E Check-Up)(continued)

purchased; one is maintained at Holland College for further training programs and for use in their Motor Vehcile Repair course; the other two are available, one each in Charlottetown and Summerside, on a rental basis to mechanics who have passed the course. The purpose of this program is to increase automobile fuel efficiency by reducing levels of hydrocarbons and carbon monoxide in the emission gases.

6. Municipal Energy Management Program

With the cooperation of the Department of Community Affairs and the Federation of P.E.I. Municipalities, the Energy Branch is coordinating a program to assist Island municipalities identify areas in which the energy costs of municipal buildings can be reduced. A workshop was presented for representatives of the regional services centres and binders of resource materials were provided. The next phase of the program involves identification and selection of representatives from city/town/village councils who will assume a specific responsibility for energy management within their municipality. These individuals will be invited to participate in a series of workshops which will be held at various locations throughout the Province. Energy Bus audits will be carried out where deemed appropriate.

7. Information and Education Programs

a. EnerSave Information Service responds to inquiries from Island residents who are attempting to reduce their energy costs.

7. Information and Education Programs (continued)

This includes preparation and distribution of pamphlets and brochures, maintenance of a reference library and responding to telephone and written enquiries for information on residential, commercial and industrial conservation.

b. Display Program: Attractive portable displays are used to promote energy conservation. The displays are presented at community fairs and exhibitions, or at special energy conservation events.

c. EnerSave School Bag: In cooperation with the Department of Education, energy conservation learning materials are distributed to Island schools during an annual energy education week. An energy poster contest was held for elementary school students in March, 1982 and over 700 posters were submitted; plans are now in progress for an energy education week to be held in May, 1983.

d. Energy Cost Index: Comparative costs for fuel oil, gasoline, electricity and propane are compiled at the end of each month and distributed to the media. An annual statistical summary, the Energy Update, is compiled each Spring and distributed to all Island residents.

e. EnerSave Update: This is a quarterly publication which gives case studies of energy audits conducted by EnerSave for Industry and Commerce and brief outlines of other programs delivered by the Energy and Minerals Branch.

f. Workshops: A series of workshops on residential energy conservation was presented in cooperation with Holland College in November, 1982. Topics included efficient furnace operation, insulation techniques, wood burning, electricity use, solar install-

7. Information and Education Programs

f. Workshops: (continued)

ations and energy efficienct new home construction.

8. Energy Alternatives for P.E.I. Study

This study is being undertaken on behalf of the province by the federal government, with the input of provincial officials and consultant support on the subject of natural gas. Work began in August 1982, and completion of the fiscal report was delayed from the originally-planned December 1982 to May 1983. The study is a comprehensive evaluation of energy alternatives available (or potentially available) to the Island, including wood and other biomass, propane, natural gas, renewables such as solar and wind energy, and electrical services.

9. Negotiations for the Purchase of Off-Island Power

The Department of Energy and Forestry and Maritime Electric Company Limited have been participating in ongoing negotiations with the Governments of New Brunswick and Quebec, and their respective utilities. These talks are aimed at redefining the terms and conditions under which electrical energy is purchased through the cable interconnection with New Brunswick, and thus lowering the cost of electricity to Prince Edward Islanders.

10. Oil and Gas

Chevron Canada Resources Ltd. undertook extensive seismic surveys both on-shore and off-shore. The company renewed its onshore permits and its offshore option for a two-year period

10. Oil and Gas (continued)

effective August 18, 1982. Further seismic studies, possibly culminating in an exploration well, are planned for 1983 subject to provincial and federal approval. Chevron is operating in partnership with Irving Oil Ltd.

In May 1982 Hudsons Bay Oil and Gas Ltd. was purchased by Dome Petroleum Ltd. which acquired the former's offshore permits as its successor-organization. Dome has submitted plans for extensive exploration activities in 1983 and 1984.

Texaco Canada Resources Ltd. renewed a group of leases north of St. Peter's Bay in August, 1982. Exploration over this ground will be undertaken by Chevron-Irving in agreement with Texaco.

The total revenue received by the province in 1982 in respect of its oil and natural gas lands was $299,701.50.

11. Other Activities

Staff of the Energy and Minerals Branch participate with other jurisdictions in promoting energy management programs.

a. The Northeast International Committee on Energy (NICE) operates under the aegis of the New England Governors and Eastern Canadian Premiers Conference and is made up of representatives of the five eastern Canadian provinces and six New England states. Some of the initiatives sponsored by NICE are:

- Regional Renewable Energy Conference hosted by P.E.I. in May, 1982.
- Municipal Energy Forum hosted by Rhode Island, November, 1982.

11. Other Activities (continued)

- Regional Data Book which contains energy statistics for the New England and Eastern Canadian region.
- Directory of state and provincial officials.
- Natural Gas Roundtable to be held in Quebec City, April, 1983.
- International Energy Competition to be held in October, 1983.

b. Maritime Energy Education Committee (MEECC): This task force is a co-operative effort of the Council of Maritime Premiers and the Maritime Departments of Education. The Task Force is made up of representatives from Education, Energy and the local utilities. The committee sponsored and coordinated an Energy Education Symposium which was held in Moncton in November, 1982. Other on-going projects include preparation of a field trip guide, an energy education bibliography and a film related to current programs and projects in the three provinces.

c. Canadian Associaiton of Vanpool Operators (CAVPO): The Energy Branch is involved in the Marketing aspect of this Association which was organized to promote the development of vanpools throughout Canada. The next annual meeting of CAVPO will be held in Toronto in September.

d. Canadian General Standards Board (C.G.S.B.) "Certification Program for Insulation Contractors": The Department has actively supported and participated in promoting the C.G.S.B. Certification Program within this Province and is represented on the Provincial Certification Panel.

II. P.E.I. ENERGY CORPORATION

1. Energy from Waste Project - Parkdale

Building construction and all outside construction activities at the Energy from Waste Plant in Parkdale were completed in November of 1982. The electrical and mechanical contractors are currently on site and it is anticipated that the plant will be ready for operation in February of 1983. The Energy Corporation and Tricil Limited entered into a 5-year, full service contract under which Tricil is responsible for the design, construction, and operation of the plant. The facility will use approximately 26,000 tons of municipal solid waste annually to produce steam which will be sold to the Queen Elizabeth and Riverside hospitals.

2. Kings County Memorial Hospital - Wood Fuel Heating System

Construction of this wood chip burning unit was completed in the spring of 1982 and the facility went into operation in May of 1982. The unit has been in continuous operation since that date and performance has been excellent. An analysis of the first six months of operation data indicates that the cost of wood fuel is approximately 2/3 the cost of oil, with minimum additional operating costs associated with the wood facility. An Agreement with the Kings County Memorial Hospital provides for the Energy Corporation to operate the facility for two years as a demonstration project and after that date the facility will be turned over to the Hospital.

3. Electrical Supply and Demand Study

Slater Energy Consultants Incorporated were retained in May of 1981 to examine electrical supply and demand alternatives for Prince Edward Island to 1995. The final draft of the report was received in February of 1982 and the final report was made available to interested Departments and Agencies in June of 1982. This study will provide excellent background information for the Energy Options for P.E.I. study currently being conducted by the Energy Branch of the Department of Energy and Forestry.

4. Wood Pellet Strategy

In order to provide the necessary background information for individuals in the private sector interested in the pelletizing of wood fuel on Prince Edward Island, background papers were prepared on:

- Use of Straw as a Fuel
- Inventory of Sawmill Residue on P.E.I. and the Projected Annual Volumes
- A Review of Existing Pelletizing Technologies
- Identification of Possible Government Investment Sources.

Through the Federal Department of Industry, Trade and Commerce, funding was provided for one individual in the private sector to carry out a feasibility study with regard to the establishment of a wood pelletizing plant on P.E.I. This feasibility report is scheduled to be completed in February of 1983.

5. Demonstration of Intermediate Size Wood Chip Burning Unit

In reviewing energy audits conducted by EnerSave, it was noted that there are some 300 commercial and institutional facilities in the 20 to 30 boiler H.P. range on P.E.I. To demonstrate the benefits of wood burning on this scale, funding was obtained from the Comprehensive Development Plan for the installation of a unit at Montague Junior High School. The necessary contract documents are currently being prepared and the Tender is due to be called in the spring of 1983.

6. Renewable Energy Initiatives

Included in the 1982-83 budget for the Energy Corporation was funding for a renewable energy initiatives program. This program is being developed by the Province to replace the conservation and renewable energy demonstration programs which were jointly funded by Canada/Prince Edward Island and which terminated in March of 1980.

The prime objectives are to demonstrate promising renewable energy technologies; to develop public awareness and understanding of these technologies; and to create employment in new or existing industries. The guidelines as developed allow for a provincial contribution of up to 1/3 of the Capital Cost. The three projects approved to date relate to the burning of straw for the heating of a greenhouse, a round-wood burning unit to heat an apartment complex, and evaluation of energy conservation measures in a greenhouse and aquaculture project. Performance testing and evaluation of the three facilities will be carried out by the Energy Corpoeration so that necessary background data may be made available to other interested parties in the province.

7. Energy Projects in Agriculture

A Farm Energy Conservation and Energy Alternatives Demonstration Project was approved for funding under the Comprehensive Development Plan during the fiscal year 1982-83 which will be extended into the fiscal year 1983-84. The project will research and demonstrate systems and methods designed to save energy and substitute for conventional energy forms presently on P.E.I. farms. The project will consist of the following elements:

- A Fuel Energy Audit of farm buildings, field operations, and the farmhouse;
- As a result of the audit, selected energy conservation measures will be introduced;
- As a result of the audit, selected energy conservation measures will be initiated;
- There will be maintenance of comprehensive energy records;
- There will be monitoring and evaluation of energy measures taken, and recommendation of cost effective energy systems for island-wide implementation will be made.

The project envisages the participation of 15 to 20 P.E.I. farm operations. These farms will represent a range of Island farms including size, commodity mix and location. To date, four demonstration projects have been approved by the Advisory Committee which has representatives from the private and public sector and works with the Energy Corporation as well as the Department of Agriculture, which is the department responsible for the implementation of the program.

8. District Heating Study Proposal

A District Heating Study Proposal was developed by the P.E.I. Energy Corporation and submitted to Energy, Mines and Resources Canada in June of 1981. An earlier federal study had identified Charlottetown as the most promising location in Atlantic Canada for a district heating project. The reduced oil revenue coming to the Federal Government has been identified as the contributing factor in deleting the funding of district heating studies from the National Energy Program.

Recent negotiations with Energy, Mines and Resources, Canada with regard to funding of the district heating study for downtown Charlottetown have been very positive and the Conservation and Renewable Energy Demonstration Program of Environment Canada has been identified as a possible source of funding for the study. The Energy Corporation is currently in active negotiation with Energy, Mines and Resources with regard to the terms of reference for the study and the cost-sharing formula.